

Service Manual

4-BAND PORTABLE RADIO
WITH CASSETTE TAPE RECORDER

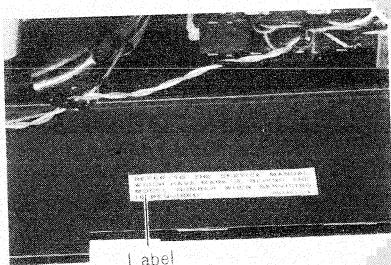
Radio
R-5310B(A)



IMPORTANT

There are two different types in model RF-5310B(A). Identification of difference can be made by **Label** and **Printed Circuit Board**, so please refer to respective Service Manual as below.

Service Manual (Order No.)	R-5310B(A) (RD7603-1294)	R-5310B (RD7408-1111)
Label Indication	Indicated	Non
Printed Circuit Board No.	RUP721Z	RUP450Z



SPECIFICATIONS

Frequency Range: MW 525~1605kHz
(571~187m)
SW₁ 1.6~4.5MHz (187~66.7m)
SW₂ 4.5~12 MHz (66.7~25m)
SW₃ 12 ~26.1MHz (25~11.5m)
Intermediate Frequency: AM (MW & SW) 455 kHz
Sensitivity: MW 50 μV/m for 50mW Output
SW₁ 20 μV/m for 50mW Output
SW₂ 5 μV for 50mW Output
SW₃ 5 μV for 50mW Output
Power Output: 4.2 W Maximum
Power Source: AC 115/200/220/240V
50-60Hz or 9V (Six "D" Size
Flashlight Batteries) (National
UM-1 or equivalent)

Power Consumption: 10 W (AC Only)
Speaker: 16 cm (6 1/2") PM Dynamic Speaker
Dimensions: 320(Wide) x 235(High) x
102(Deep) mm
(12 15/32" x 9 1/4" x 4")
Weight: 3.6 kg. (7 lb. 15 oz.) without
batteries
Impedance: Speaker..... 8Ω
Earphone Jack 8Ω
AUX Out Jack..... 100kΩ
MIC Jack..... 10kΩ

Specifications are subject to change without notice for further improvement.



National Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka, Japan

Service Manual

4-BAND PORTABLE RADIO
WITH CASSETTE TAPE RECORDER

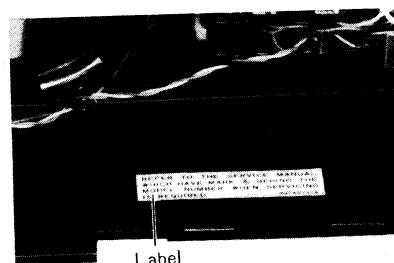
Radio
R-5310B(A)



IMPORTANT

There are two different types in model RF-5310B(A). Identification of difference can be made by **Label** and **Printed Circuit Board**, so please refer to respective Service Manual as below.

Service Manual (Order No.)	R-5310B(A) (RD7603-1294)	R-5310B (RD7408-1111)
Label Indication	Indicated	Non
Printed Circuit Board No.	RUP721Z	RUP450Z



SPECIFICATIONS

Frequency Range:	MW 525~1605kHz (571~187m)	Power Consumption:	10 W (AC Only)
	SW ₁ 1.6~4.5MHz (187~66.7m)	Speaker:	16 cm (6 1/2") PM Dynamic Speaker
	SW ₂ 4.5~12 MHz (66.7~25m)	Dimensions:	320(Wide) x 235(High) x 102(Deep) mm (12 19/32" x 9 1/4" x 4")
	SW ₃ 12 ~26.1MHz (25~11.5m)	Weight:	3.6 kg. (7 lb. 15 oz.) without batteries
Intermediate Frequency:	AM (MW & SW) 455 kHz	Impedance:	Speaker.....8Ω Earphone Jack8Ω AUX Out Jack.....100kΩ MIC Jack.....10kΩ
Sensitivity:	MW 50 μV/m for 50mW Output		
	SW ₁ 20 μV/m for 50mW Output		
	SW ₂ 5 μV for 50mW Output		
	SW ₃ 5 μV for 50mW Output		
Power Output:	4.2 W Maximum		
Power Source:	AC 115/200/220/240V 50-60Hz or 9V (Six "D" Size Flashlight Batteries) (National UM-1 or equivalent)		

Specifications are subject to change without notice for further improvement.



National Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka, Japan

■ TO REMOVE CHASSIS

1. Remove six (6) control knobs from cabinet.
2. Remove battery cover.
3. Remove four (4) cover screws, nos. 1~4, as illustrated in fig.1.
4. Remove cabinet cover.
5. Pull out socket of lead wires to cabinet cover.
6. Remove eight (8) red chassis screws, nos. 1~8, as illustrated in fig.2.
7. Push the eject button.
8. Remove triple indicator.
9. Pull out microphone.
10. To remove chassis completely, unsolder lead wires to speaker terminal.
11. To reassemble, reverse the above procedure.

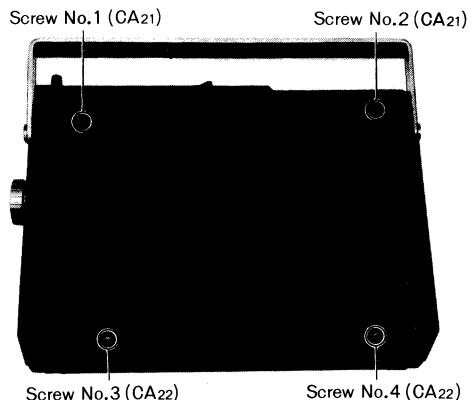


Fig. 1

■ TO REMOVE TAPE DECK

1. Remove chassis from cabinet.(Refer to chassis removal instruction.)
2. Remove three (3) PC Board and tape deck screws, nos. 3, 6 & 7, as illustrated in fig. 3.
3. Remove PC Board from tape deck.
4. To remove tape deck completely, unsolder lead wires, as illustrated in fig. 4.
5. To reassemble, reverse the above procedure.

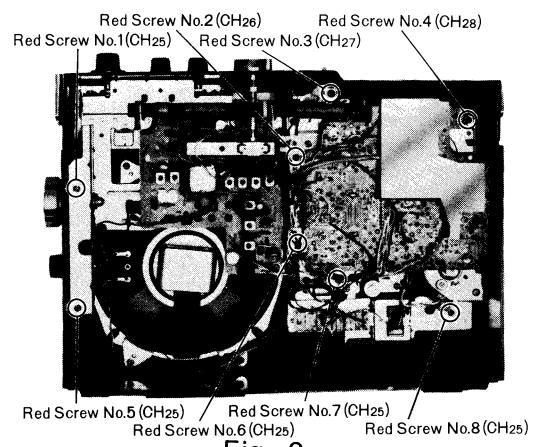


Fig. 2

■ TO REMOVE PC BOARD (RF Circuit)

1. Remove chassis from cabinet.
2. Remove two(2) dial drum and PC Board screws, nos. 1& 2, as illustrated in fig.5.
3. Remove four (4) PC Board screws, nos. 1, 2, 4 & 5, as illustrated in fig.3.
4. Remove PC Board from chassis.
5. To reassemble, reverse the above procedure and read the following notes.

Notes:

1. Turn tuning shaft fully clockwise.
2. Turn tuning capacitor shaft fully clockwise.

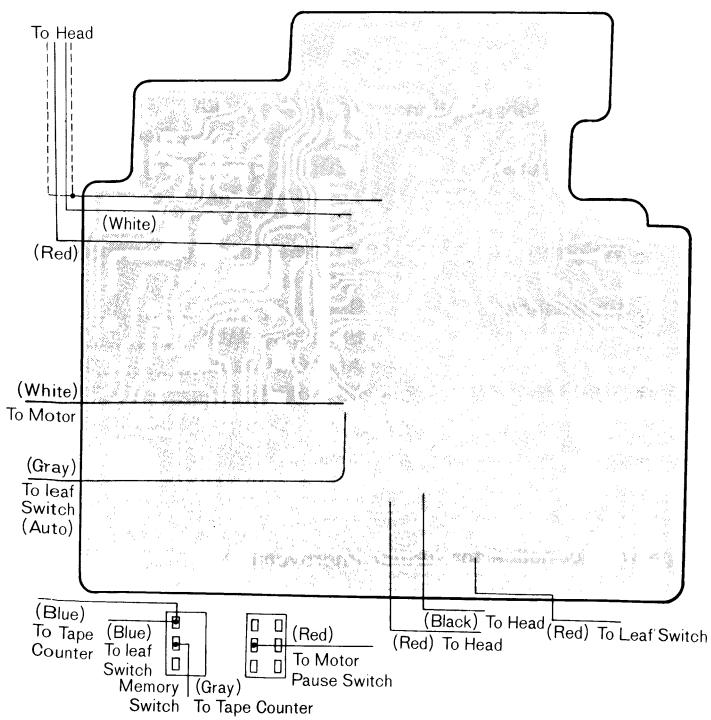


Fig. 4

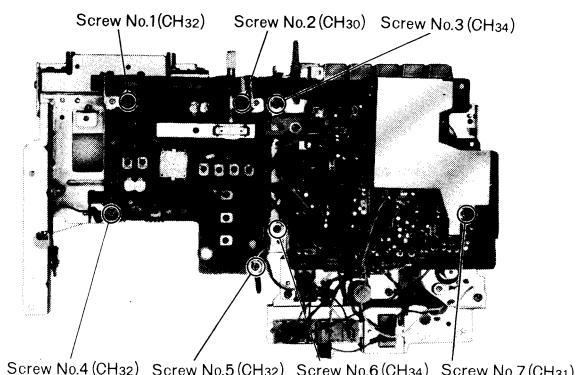


Fig. 3

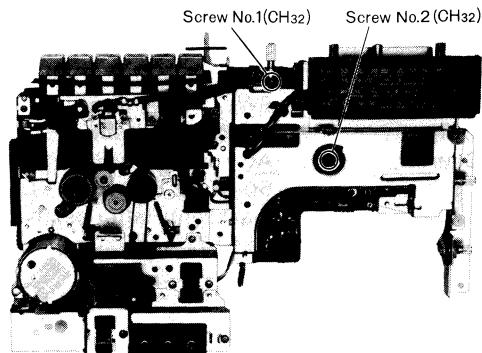


Fig. 5

REMOVAL OF CHASSIS

■ TO REMOVE CHASSIS

1. Remove six (6) control knobs from cabinet.
2. Remove battery cover.
3. Remove four (4) cover screws, nos. 1~4, as illustrated in fig. 1.
4. Remove cabinet cover.
5. Pull out socket of lead wires to cabinet cover.
6. Remove eight (8) red chassis screws, nos. 1~8, as illustrated in fig. 2.
7. Push the eject button.
8. Remove triple indicator.
9. Pull out microphone.
10. To remove chassis completely, unsolder lead wires to speaker terminal.
11. To reassemble, reverse the above procedure.

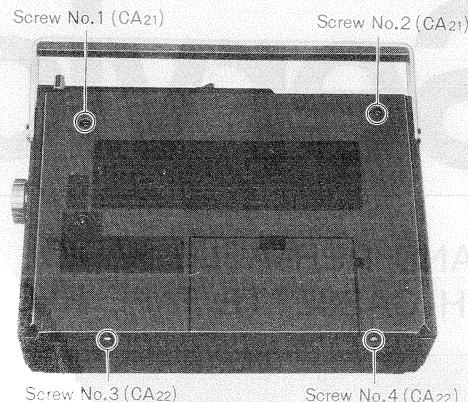


Fig. 1

■ TO REMOVE TAPE DECK

1. Remove chassis from cabinet.(Refer to chassis removal instruction.)
2. Remove three (3) PC Board and tape deck screws, nos. 3, 6 & 7, as illustrated in fig. 3.
3. Remove PC Board from tape deck.
4. To remove tape deck completely, unsolder lead wires, as illustrated in fig. 4.
5. To reassemble, reverse the above procedure.

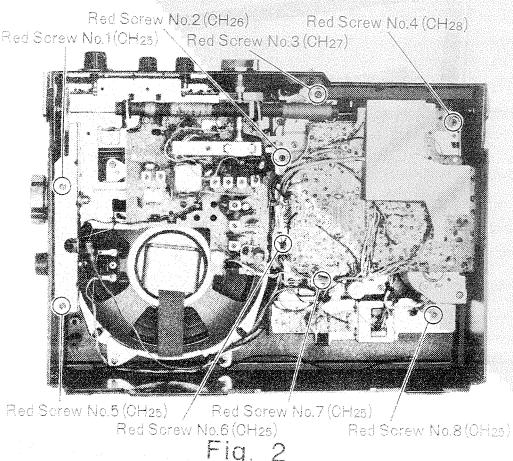


Fig. 2

■ TO REMOVE PC BOARD (RF Circuit)

1. Remove chassis from cabinet.
2. Remove two (2) dial drum and PC Board screws, nos. 1&2, as illustrated in fig. 5.
3. Remove four (4) PC Board screws, nos. 1, 2, 4 & 5, as illustrated in fig. 3.
4. Remove PC Board from chassis.
5. To reassemble, reverse the above procedure and read the following notes.

Notes:

1. Turn tuning shaft fully clockwise.
2. Turn tuning capacitor shaft fully clockwise.

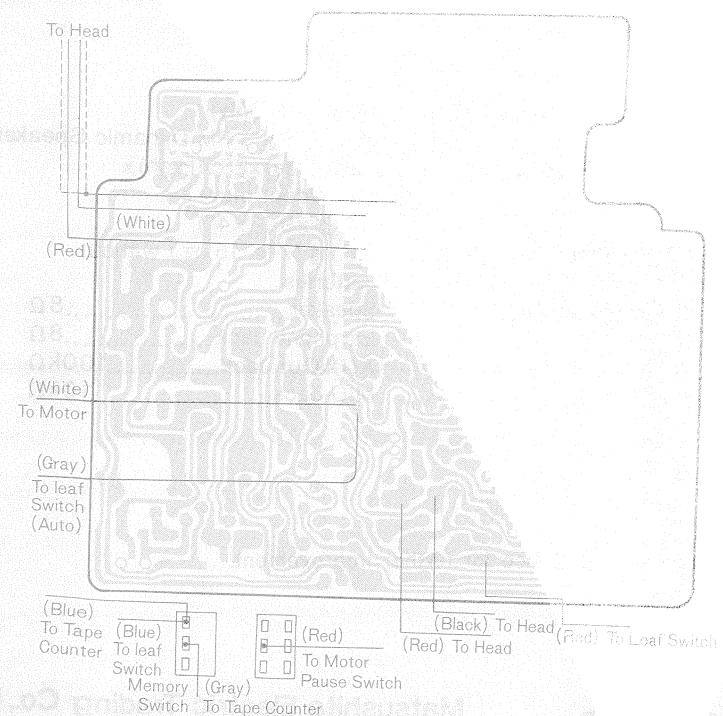


Fig. 4

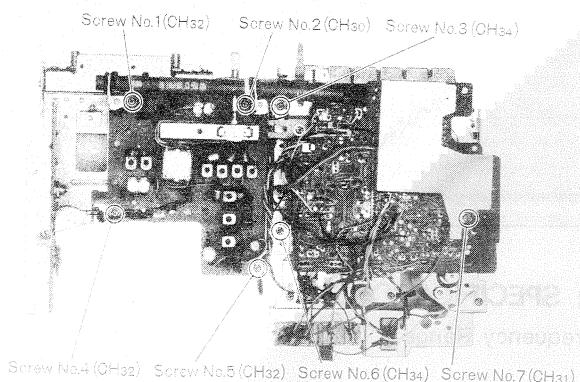


Fig. 3

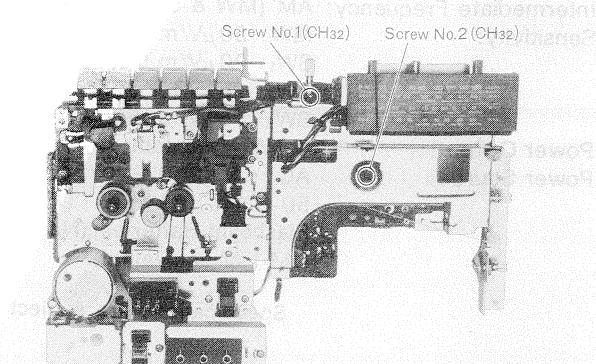


Fig. 5

■ DIAL CORD INSTALLATION GUIDE

1. Remove PC Board(RF Circuit) from chassis.
2. Dial cord length is 80 cm(31½")
3. Set dial drum fully counter-clockwise.
4. Arrows(1~7) indicate correct order and direction of dial cord installation.
5. Cement dial cord ends.

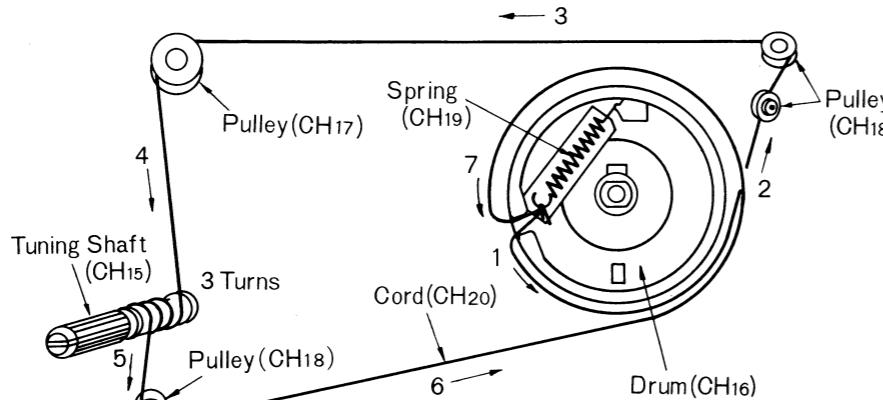


Fig. 6

■ ALIGNMENT POINTS

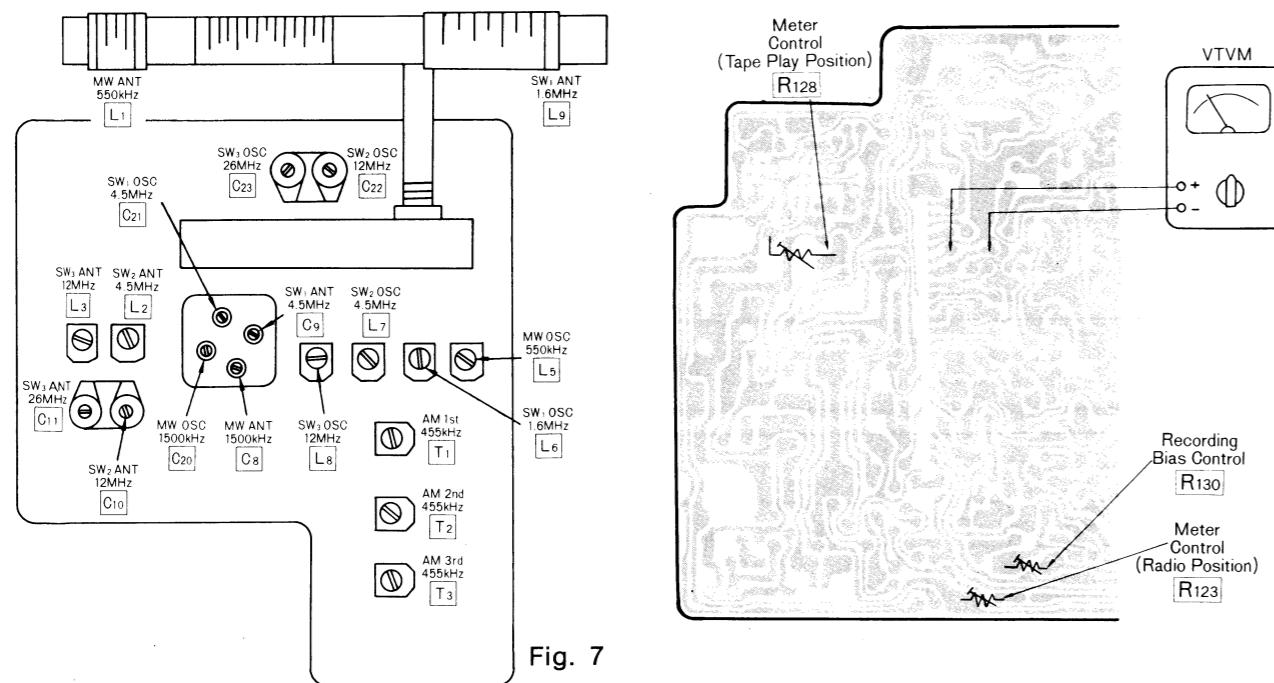


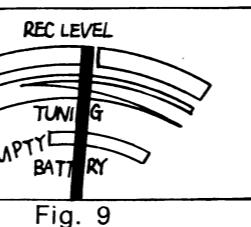
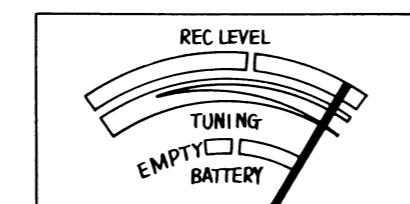
Fig. 7

■ BATTERY/TUNING/RECORDING LEVEL METER ADJUSTMENT

- 1-1. RADIO RECEIVER SETTING
- Set radio-sleep-tape selector switch to RADIO ON.
 - Set volume control to minimum.
 - Set power source voltage to 9 volts DC.

1-2. REMARKS

- Adjust R123 so that the pointer of level meter stays as shown in fig. 8.



2-1. RADIO RECEIVER SETTING

- Set radio-sleep-tape selector switch to TAPE.
- Set volume control to minimum.
- Set power source voltage to 6.7 volts DC.

2-2. REMARKS

- Adjust R128 so that the pointer of level meter stays as shown in fig. 9.

■ TO MOUNT DIAL POINTER

1. Set tuning capacitor to maximum capacity.
2. Set dial pointer to start point of dial scale.
3. Attach dial cord to dial pointer.

■ ALIGNMENT INSTRUCTIONS

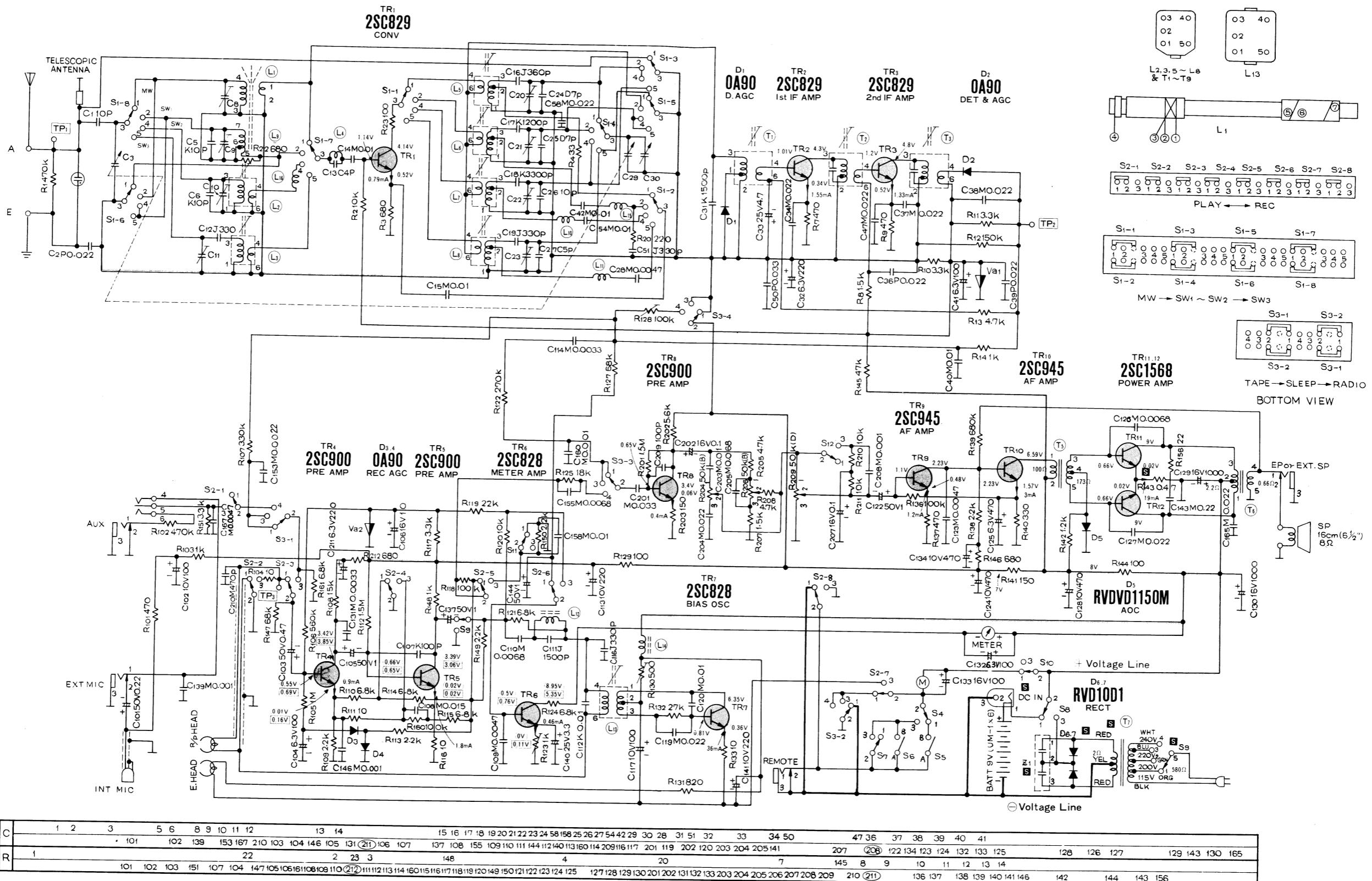
READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Notes:

1. Set volume control to MAX or MIN (Tape).
2. Set bass & treble control to MAX.
3. Set band selector switch to SW1, SW2 or SW3.
4. Set radio-sleep-tape selector switch to RADIO ON or TAPE (Tape).
5. Set loudness switch to OFF.
6. Set power source voltage to 9 volts DC.
7. Set tape selector switch to recording (Tape).
8. Output of signal generator should be no higher than necessary to obtain an output reading.
9. When aligning, remove whip antenna socket.

CONNECTIONS	FREQUENCY	RADIO DIAL SETTING [DISTANCE]	INDICATOR (VTVM or SCOPE)	ADJUSTMENT	REMARKS
MW ALIGNMENT					
Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. with 400 Hz.	Point of non-interference. (on/about 600 kHz)	Output meter across voice coil.	T ₁ (1st IFT) T ₂ (2nd IFT) T ₃ (3rd IFT)	Adjust for maximum output.
"	550 kHz [6.08mm (1/4")]	"	"	L ₅ (OSC Coil) (*) L ₁ (ANT Coil)	Adjust for maximum output. Adjust L ₁ by moving coil bobbin along ferrite core.
"	1500 kHz [57.27mm (2 1/4")]	"	"	C ₂₀ (OSC Trimmer) C ₈ (ANT Trimmer)	Adjust for maximum output. Repeat steps (2) and (3).
SW₁ ALIGNMENT					
Connect to point TP ₁ through 10PF capacitor Common to earth.	1.6 MHz [3.01mm (1/8")]	"	"	L ₆ (OSC Coil) (*) L ₉ (ANT Coil)	Adjust for maximum output. Adjust L ₉ by moving coil bobbin along ferrite core.
"	4.5 MHz [60mm (2 3/8")]	"	"	C ₂₁ (OSC Trimmer) C ₉ (ANT Trimmer)	Adjust for maximum output. Repeat steps (4) and (5).
(*) Cement antenna bobbin with wax after completing alignment.					
SW₂ ALIGNMENT					
"	4.5 MHz [3.01mm (1/8")]	"	"	L ₇ (OSC Coil) L ₂ (ANT Coil)	Adjust for maximum output.
"	12 MHz [60mm (2 3/8")]	"	"	C ₂₂ (OSC Trimmer) C ₁₀ (ANT Trimmer)	Adjust for maximum output. Repeat steps (6) and (7).
SW₃ ALIGNMENT					
"	12 MHz [3.01mm (1/8")]	"	"	L ₈ (OSC Coil) L ₃ (ANT Coil)	Adjust for maximum output.
"	26 MHz [60mm (2 3/8")]	"	"	C ₂₃ (OSC Trimmer) C ₁₁ (ANT Trimmer)	Adjust for maximum output. Repeat steps (8) and (9).
RECORDING BIAS ALIGNMENT					
CIRCUIT	VTVM CONNECTION	ADJUSTMENT	REMARKS		
RECORDING BIAS	Connect positive side to test point TP ₃ and negative side to test point E.	R ₁₃₀ (Bias Voltage Control)	Adjust R ₁₃₀ for 6mV of VTVM reading.		

Schematic Diagram - Model R-5310B(A)

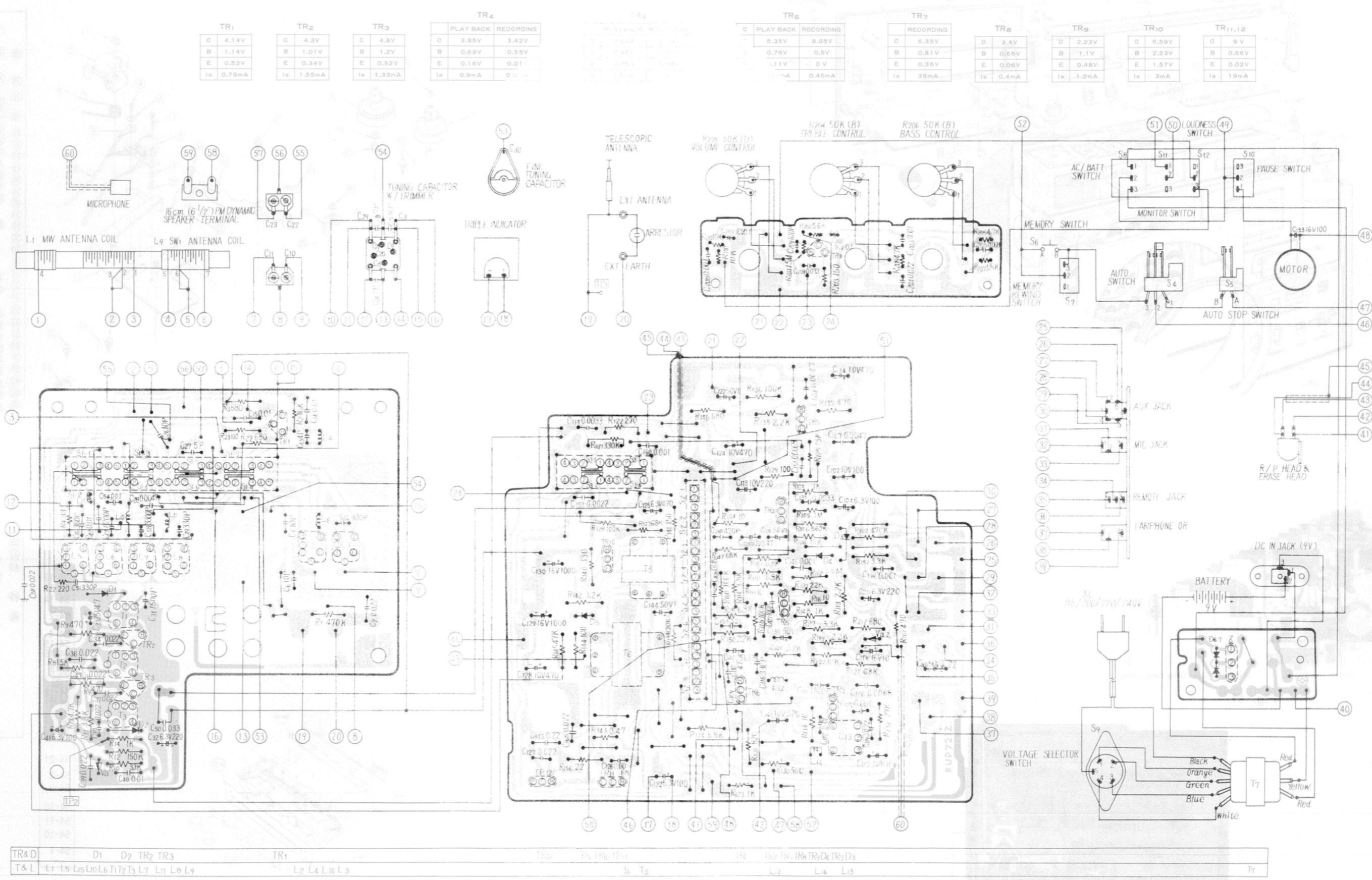


C	1	2	3	5	6	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41																				
R																																																											
	101	102	103	105	107	104	147	105	106	108	109	10(21)	111	112	113	114	160	115	116	117	118	119	120	149	150	121	122	123	124	125	127	128	129	130	201	202	131	132	133	203	204	205	206	207	208	209	210	(21)	136	137	138	139	140	141	146	142	144	143	156

Notes:

- S1-1 ~ S1-8: Band selector switch in "MW" position.
- S2-1 ~ S2-8: Tape selector switch in "PLAY" position.
- S3-1 ~ S3-4: Radio-Sleep-Tape selector switch in "RADIO" position.
- S4: Auto switch in "PLAY" position.
- S5: Auto stop switch in "OFF" position.
- S6: Memory switch in "OFF" position.
- S7: Memory ON-OFF switch in "ON" position.
- S8: AC-Battery selector switch in "Battery" position.
- S9: Voltage selector switch in "115V" position.
- S10: Pause switch in "OFF" position.
- S11: MIC monitor switch in "OFF" position.
- S12: Loudness switch in "OFF" position.
- DC voltage measurements are taken with circuit tester 10KΩ/V from negative terminal of battery.
- ... Play back position () ... Recording position.
- Battery current: No signal 43 mA
Maximum output 680 mA
- ▀ Indicates that only parts specified by the manufacturer be used for replacement in critical circuits.

Circuit Board Wiring View - Model R-5310B(A)



TR&D	D1	D2	TR2	TR3	TR1	TR4	D5	TR6	TR7	TR8	TR9	TR10	TR11,12
T&L	L1 L5 L4 L6 T1 T2 T3 L7	L11 L8 L9	L2 L4 L16 L3			16 15				L2 L4 L13			T7

⊕ Voltage Line

Circuit Board Wiring View – Model R-5310B(A)

TR_I

C	4.3V
B	1.01V
E	0.34V
Ie	1.55mA

C	4.8V
B	1.2V
E	0.52V
Ie	1.33mA

PLAY BACK		RECORDING
C	3.85V	3.42V
B	0.69V	0.55V
E	0.16V	0.01V
Ie	0.9mA	0.9mA

TR ₅		
	PLAY BACK	RECORD
C	3.06V	3.39
B	0.65V	0.66
E	0.02V	0.02
Ie	1.8mA	1.8mA

TR ₆		
C	PLAY BACK	REC
C	5.35V	8
B	0.76V	0
E	0.11V	0
Ie	0.46mA	0.4

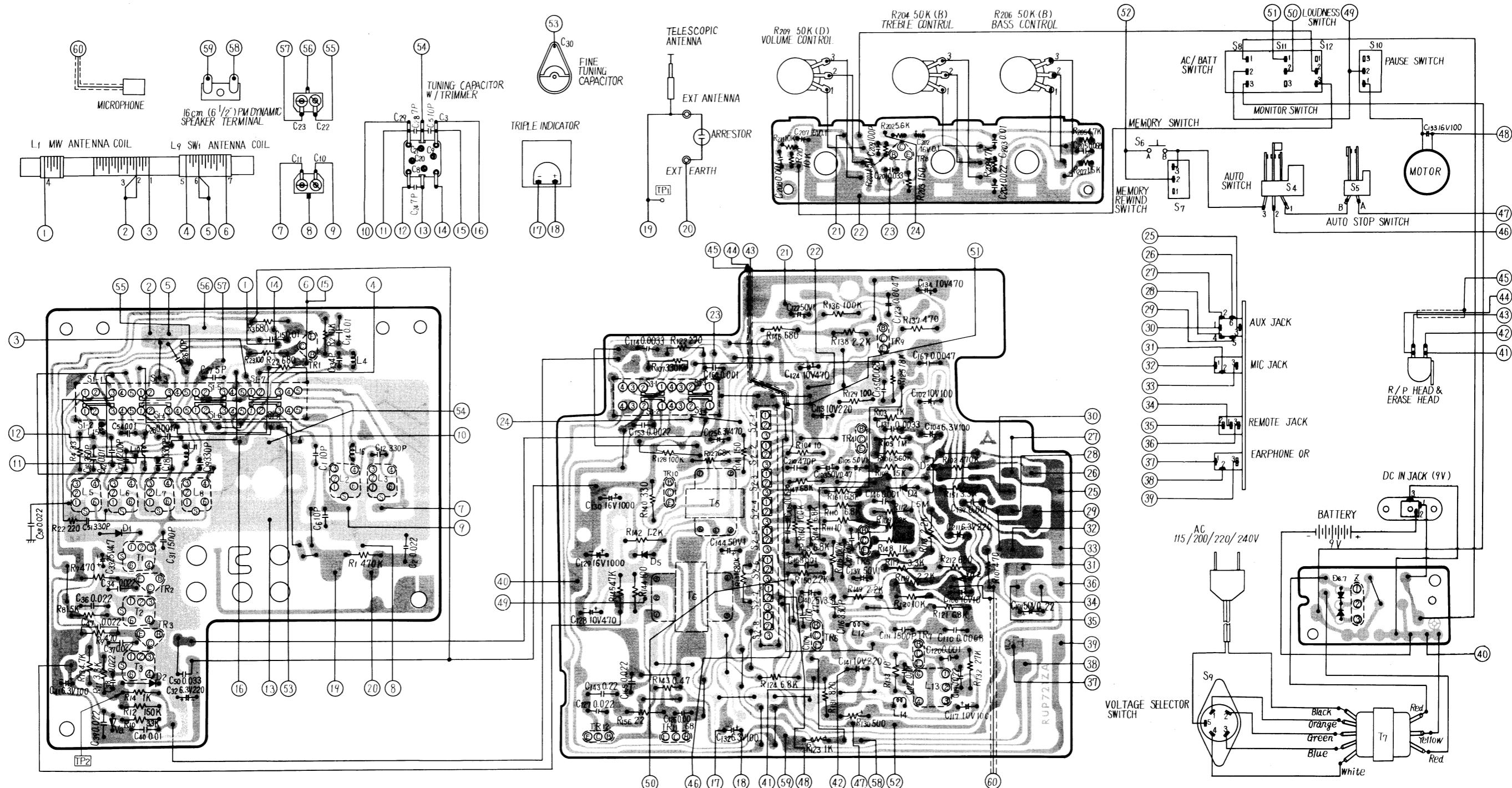
TR-1	
	RECC
C	6.
B	0.
E	0.
le	36

ING	T
V	C
V	C
V	C
A	Ie

V	T
5V	
6V	
mA	

TR

TR₁

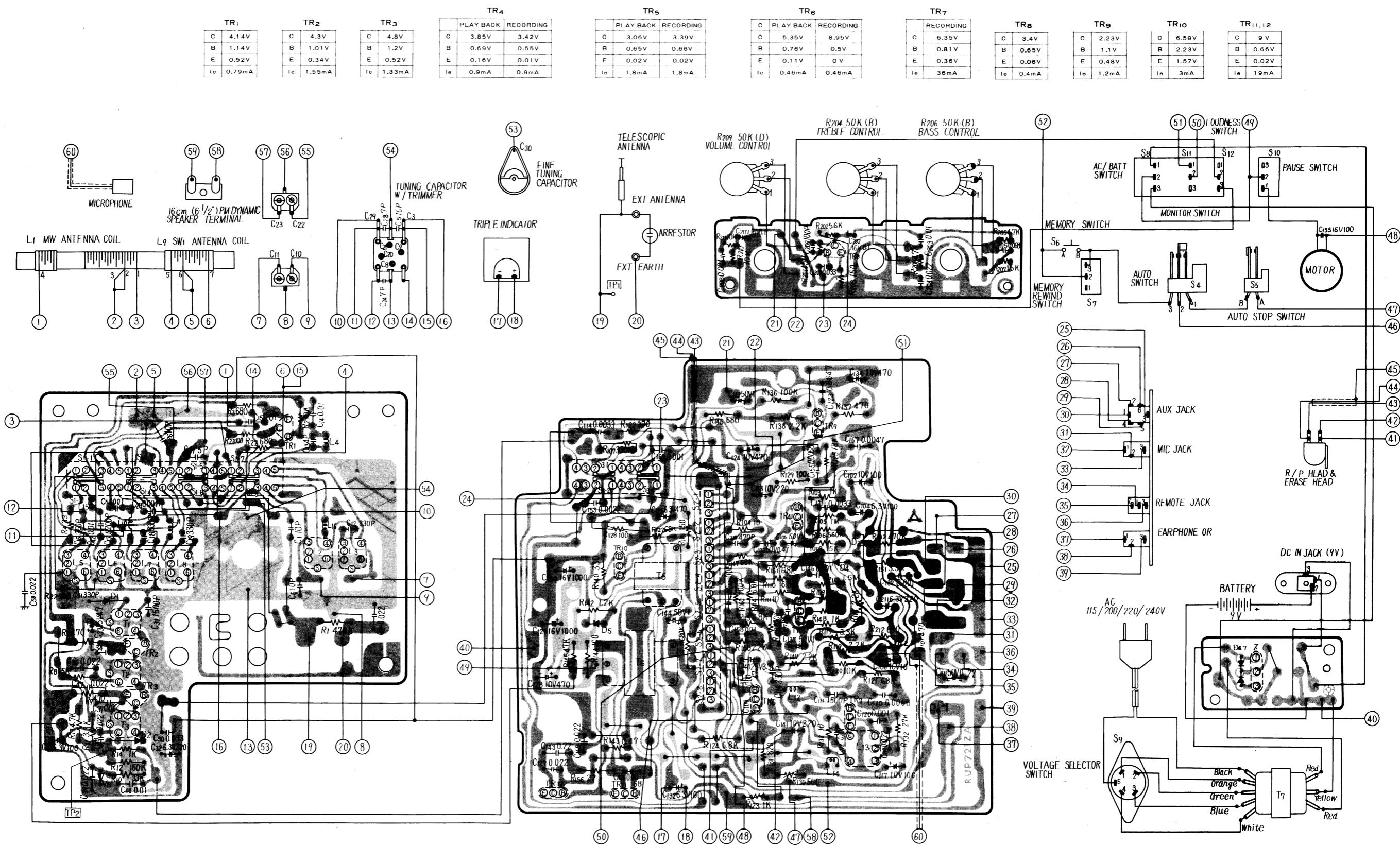


TR&D	D1	D2	IR2	IR3	TR1
T & L	L ₁	L ₅	L ₅	L ₆	T ₁ T ₂ T ₃ L ₇ L ₁₁ L ₈ L ₉ L ₂ L ₄ L ₆ L ₁₀

TR ₂	D ₅	TR ₆	TR ₁₁	TR ₄	TR ₁	TR ₃	TR ₈	TR ₉	D ₄	TR ₇
T ₆	T ₅				L ₁₂	L ₄	L ₁			

 Voltage Line

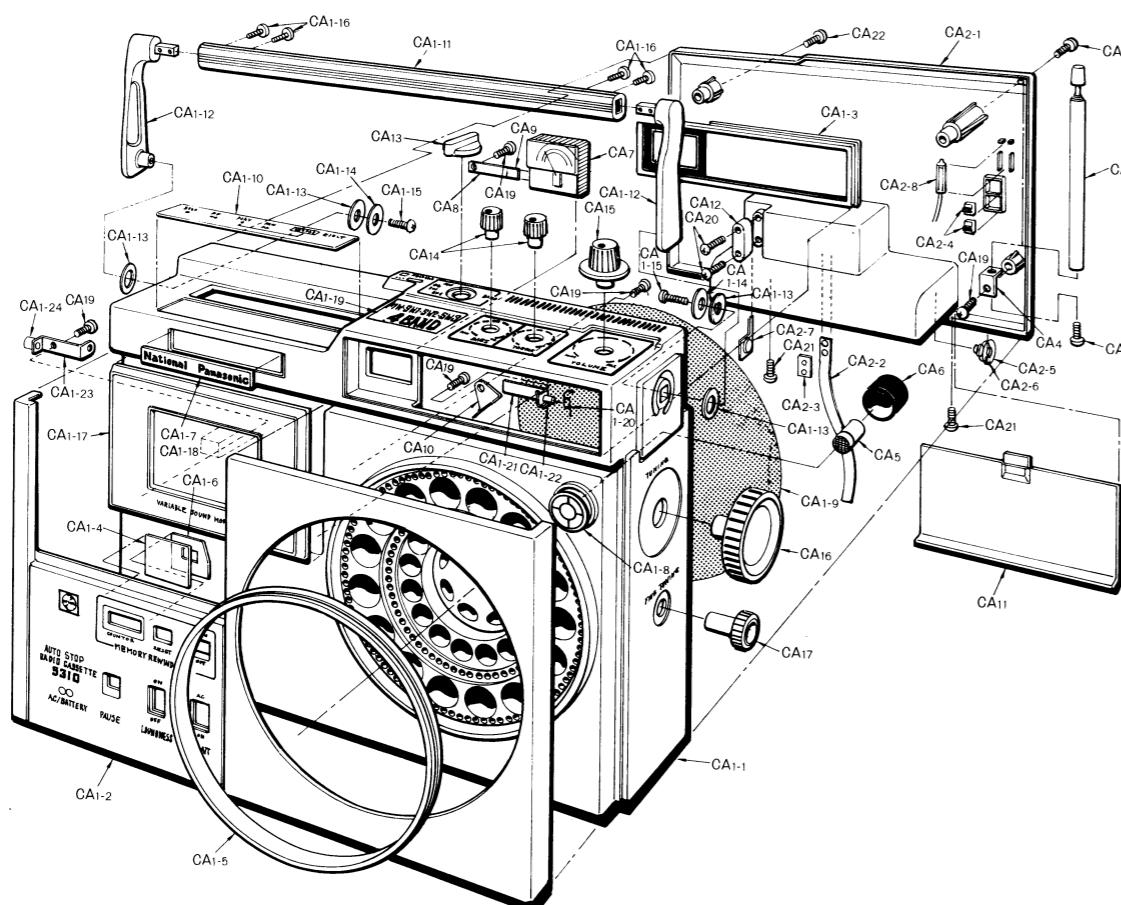
Circuit Board Wiring View—Model R-5310B(A)



TR&D	D1 D2 TR2 TR3	TR1	TR12	D5 TR10 TR11	TR4	TR5 TR6 TR7 TR8 TR9 TR10	TR11 TR12
T & L	L1 L5 L10 L6 T1 T2 T3 L7 L11 L8 L9	L2 L4 L16 L3	T6 T5	L12 L4 L13	L14		T7

⊕ Voltage Line

■ CABINET PARTS LOCATIONS



CABINET PARTS LOCATIONS

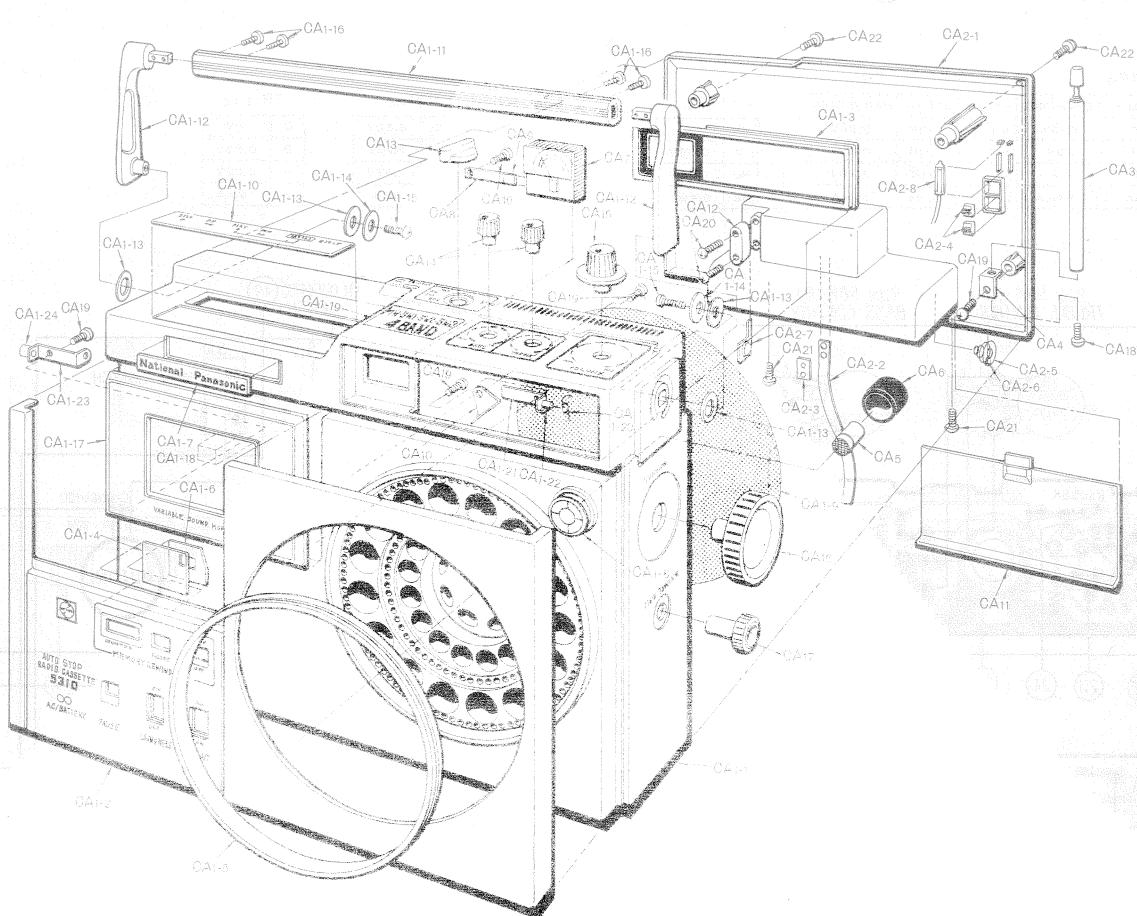


Fig. 10

■ CHASSIS PARTS LOCATIONS

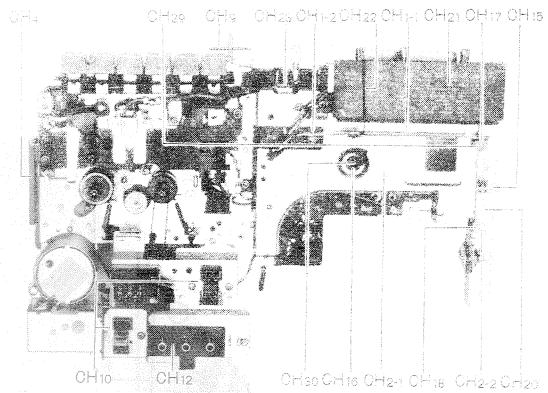


Fig. 2.

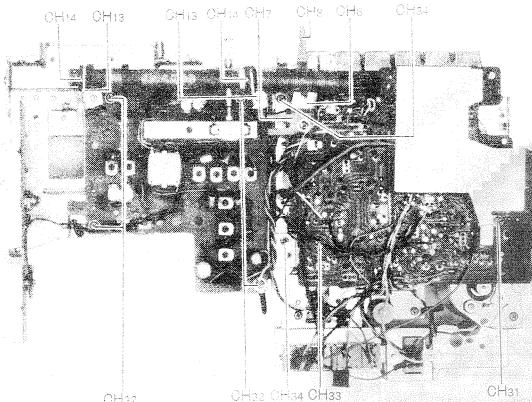


Fig. 12

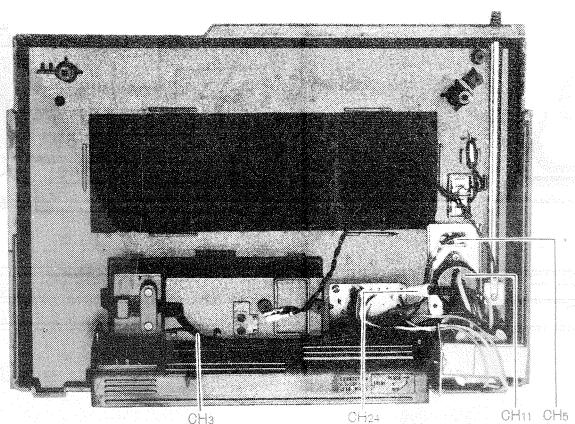
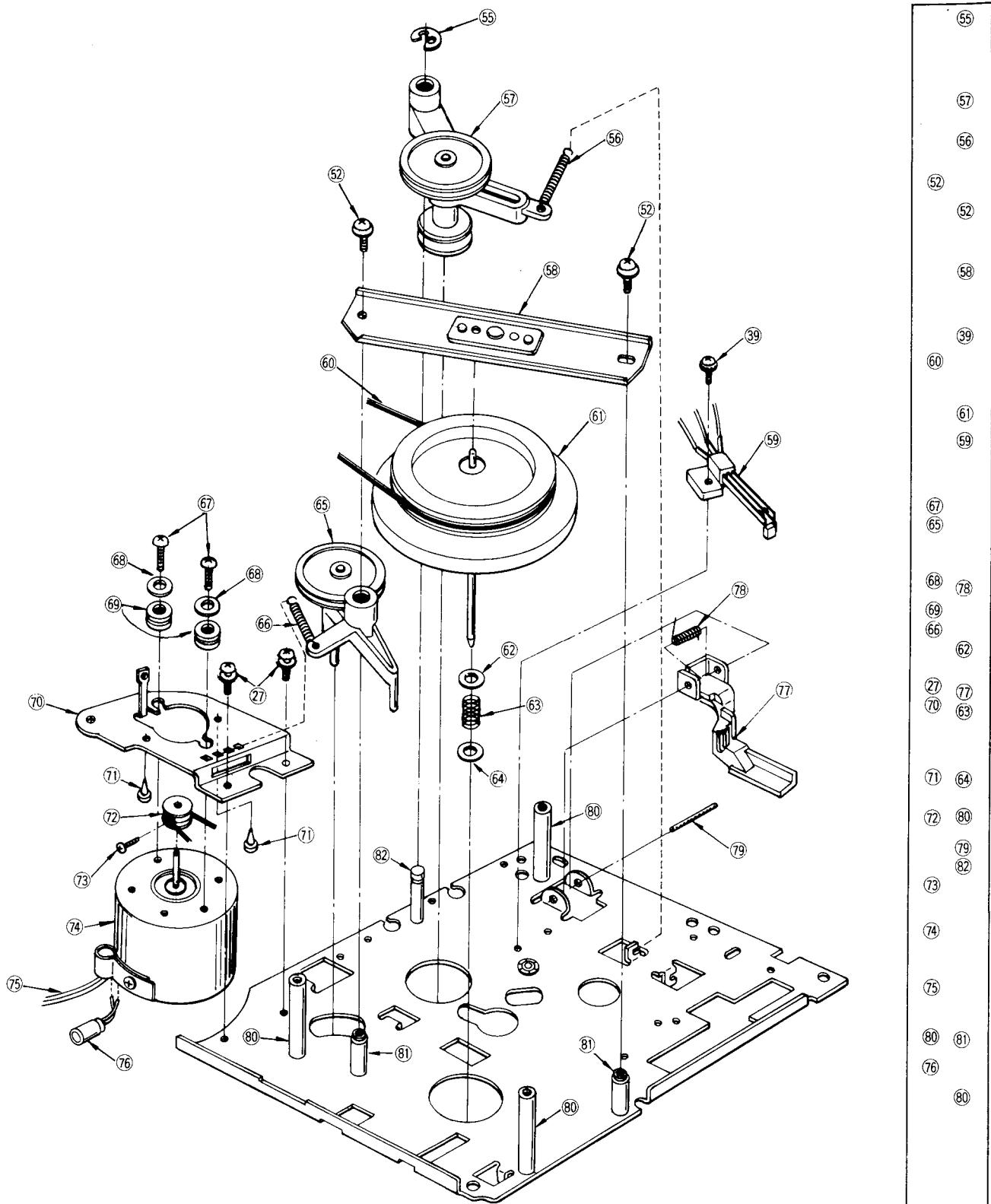


Fig. 13

■ MECHANISM PARTS LOCATIONS-TAPE DECK



REPLACEMENT PARTS LIST.....Model R-5310B (RD7603-1294)

NOTES:

- Part numbers are indicated on most mechanical parts.
- Please use this part number for parts orders.
- X-Z rank: X rank parts will cover 80% of repair needs.
- X+Y rank parts will cover 95% of repair needs.
- Z rank parts are less necessary.
- Indicates that only parts specified by the manufacturer be used for replacement in critical circuits.
- Part numbers shown in bold letters are service standard parts and may differ from Production parts.
- The O mark is used by the manufacturing plant only.

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
TRANSISTORS AND DIODES				
TR1,2,3	2SC829	Transistor(Si), Converter, 1st IF Amplifier, 2nd IF Amplifier	3	X
TR4,5,8	2SC900	Transistor(Si), Pre Amplifier	3	X
TR6,7	2SC828	Transistor(Si), Meter Amplifier, Bias Oscillator	2	X
TR9,10	2SC945	Transistor(Si), AF Amplifier	2	X
TR11,12	2SC1568	Transistor(Si), Power Amplifier	2	X
D1,2,3,4	OA90	Diode(Ge), D.AGC, Detector & AGC, REC AGC	4	X
D5	RVDVD1150M	Diode(Si), Operation Compensator	1	X
D6,7	RVD10D1	Rectifier	2	X
VARIATITES				
Val.2	EYV320D1R2J2	Variatite, Operation Compensator	2	X
COILS AND TRANSFORMERS				
L1,9	RLF5F72-O	Antenna Coil, MW-SW1	1	X
L2	RLA3M5	Antenna Coil, SW2	1	X
L3	RLA3M6	Antenna Coil, SW3	1	X
L4,15	RLQY75S5	Choke Coil	2	Y
L5	RLO2M6	Oscillator Coil, MW	1	X
L6	RLO3M6	Oscillator Coil, SW1	1	X
L7	RLO3M7	Oscillator Coil, SW2	1	X
L8	RLO3M8	Oscillator Coil, SW3	1	X
L10	RLQY10G5	Choke Coil	1	Y
L11	RLQY15S5	Choke Coil	1	Y
L12	RLQZ1231-Z	Choke Coil	1	Y
L13	RLO9C12	Oscillator Coil, Bias	1	X
L14	RLQZ102-1-Q	Choke Coil	1	Y
L16	RLQY50S5	Choke Coil	1	Y
T1	RLI2M203	IFT, 1st	1	X
T2	RLI2M205	IFT, 2nd	1	X
T3	RLI2M402	IFT, 3rd	1	X
T5	RLT3F33-W	Input Transformer, P=1.4KΩ:S=1.4KΩ	1	X

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
T6	RLT2H28-V	Output Transformer, P=45Ω:S=8Ω	1	X
T7	RLT5K86-W	Power Transformer	1	X
VARIABLE RESISTORS				
R204,206	EVHWOAF15B54	Variable Resistor, 50KΩ(B), Bass & Treble Control	2	X
R209	EVHWOAF15D54	Variable Resistor, 50KΩ(D), Volume Control	1	X
R123	EVLTOAA00B13	Semi-Fixed Variable Resistor, 1KΩ(B)	1	X
R130	EVLTOAA00B52	Semi-Fixed Variable Resistor, 500Ω(B)	1	X
R128	EVLS3AA00B15	Semi-Fixed Variable Resistor, 100KΩ(B)	1	X
VARIABLE CAPACITORS				
C3,29	PVC2K20T1	Tuning Capacitor, W/Trimmer Capacitor(C8.9,20,21)	1	X
C30	ECV1YW02D70A	Fine Tuning Capacitor	1	X
C10,11,22,23	RCV2T-16M	Trimmer Capacitor	2	X
COMPONENT COMBINATION				
Z1	RXAF103P22HD	Component Combination, 0.01μF×2	1	X
SPEAKER				
SP	RAS16P08	Speaker, Imp.8Ω	1	X
SWITCHES				
S1-1~S1-8	RSR87ZK-A	Switch, Band Selector	1	X
S2-1~S2-8	RSH65Z-F	Switch, Tape Selector	1	X
S3-1~S3-4	RSS103Y-M	Switch, Radio-Sleep-Tape Selector	1	X
S7	RST41Z-H	Switch, Memory ON-OFF	1	X
S8,11,12	RST42ZS-P	Switch, AC/BATT, Monitor & Loudness	1	X
S9	RSR29-3	Switch, Voltage Selector	1	X
S10	RST67Z-H	Switch, Pause	1	X
RESISTORS				
R104,111,116	ERD25TJ100	10Ω, ½ Watt, ±5%, Carbon	4	Z
R23,129,144	ERD25TJ101	100Ω, ½ Watt, ±5%, Carbon	3	Z
R141	ERD25TJ151	150Ω, ½ Watt, ±5%, Carbon	1	Z
R140	ERD25TJ331	330Ω, ½ Watt, ±5%, Carbon	1	Z
R7,9,101,137	ERD25TJ471	470Ω, ½ Watt, ±5%, Carbon	4	Z
R3,146,212	ERD25TJ681	680Ω, ½ Watt, ±5%, Carbon	3	Z
R131	ERD25TJ821	820Ω, ½ Watt, ±5%, Carbon	1	Z
R14,103,148	ERD25TJ102	1KΩ, ½ Watt, ±5%, Carbon	3	Z

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R142	ERD25TJ122	1.2KΩ, ½Watt, ±5%, Carbon	1	Z
R109,113,138	ERD25TJ222	2.2KΩ, ½Watt, ±5%, Carbon	5	Z
149,150				
R10,11,117,	ERD25TJ332	3.3KΩ, ½Watt, ±5%, Carbon	4	Z
151				
R110,114,115	ERD25TJ682	6.8KΩ, ½Watt, ±5%, Carbon	6	Z
121,124,161				
R2,120	ERD25TJ103	10KΩ, ½Watt, ±5%, Carbon	2	Z
R108	ERD25TJ153	15KΩ, ½Watt, ±5%, Carbon	1	Z
R125	ERD25TJ183	18KΩ, ½Watt, ±5%, Carbon	1	Z
R119	ERD25TJ223	22KΩ, ½Watt, ±5%, Carbon	1	Z
R132	ERD25TJ273	27KΩ, ½Watt, ±5%, Carbon	1	Z
R145	ERD25TJ473	47KΩ, ½Watt, ±5%, Carbon	1	Z
R127,147	ERD25TJ683	68KΩ, ½Watt, ±5%, Carbon	2	Z
R118,136,160	ERD25TJ104	100KΩ, ½Watt, ±5%, Carbon	3	Z
R122	ERD25TJ274	270KΩ, ½Watt, ±5%, Carbon	1	Z
R107	ERD25TJ334	330KΩ, ½Watt, ±5%, Carbon	1	Z
R1,102	ERD25TJ474	470KΩ, ½Watt, ±5%, Carbon	2	Z
R106	ERD25TJ564	560KΩ, ½Watt, ±5%, Carbon	1	Z
R139	ERD25TJ684	680KΩ, ½Watt, ±5%, Carbon	1	Z
R105	ERD25TJ105	1MΩ, ½Watt, ±5%, Carbon	1	Z
R112	ERD25TJ155	1.5MΩ, ½Watt, ±5%, Carbon	1	Z
R4	ERD25TJ330	33Ω, ½Watt, ±5%, Carbon	1	Z
R20	ERD25TJ221	210Ω, ½Watt, ±5%, Carbon	1	Z
R8	ERD25TJ152	1.5KΩ, ½Watt, ±5%, Carbon	1	Z
R13	ERD25TJ472	4.7KΩ, ½Watt, ±5%, Carbon	1	Z
R12	ERD25TJ154	150KΩ, ½Watt, ±5%, Carbon	1	Z
R203	ERD25TJ151	150Ω, ½Watt, ±5%, Carbon	1	Z
R207	ERD25TJ152	1.5KΩ, ½Watt, ±5%, Carbon	1	Z
R205,208	ERD25TJ472	4.7KΩ, ½Watt, ±5%, Carbon	2	Z
R202	ERD25TJ562	5.6KΩ, ½Watt, ±5%, Carbon	1	Z
R210,211	ERD25TJ103	10KΩ, ½Watt, ±5%, Carbon	2	Z
R201	ERD25TJ155	1.5MΩ, ½Watt, ±5%, Carbon	1	Z
R156	ERD25TJ220	22Ω, ½Watt, ±5%, Carbon	1	Z
R22	ERD25TJ681	680Ω, ½Watt, ±5%, Carbon	1	Z
R143	ERX1ANJR47	0.47Ω, 1Watt, ±5%, Metal Oxide	1	Z

CAPACITORS

C13	ECCD1H040C	4PF, 50WV, ±0.25PF, Ceramic	1	X
C27	ECCD1H050CC	5PF, 50WV, ±0.25PF, Ceramic	1	X
C24,25	ECCD1H070CC	7PF, 50WV, ±0.25PF, Ceramic	2	X
C1,5,6,26	ECCD1H100KC	10PF, 50WV, ±10%, Ceramic	4	X
C107,209	ECCD1H101K	100PF, 50WV, ±10%, Ceramic	2	X
C2,36,39	ECKE1H223PF	0.022μF, 50WV, ±10%, Ceramic	3	X
C50	ECKE1H333PF	0.033μF, 50WV, ±10%, Ceramic	1	X
C210	ECKD1H471MD	470PF, 50WV, ±20%, Ceramic	1	X
C139,160	ECKD1H102MD	0.001μF, 50WV, ±20%, Ceramic	2	X
C153	ECKE1H222MD	0.0022μF, 50WV, ±20%, Ceramic	2	X
C114,131	ECKE1H332MD	0.0033μF, 50WV, ±20%, Ceramic	2	X
C28,109,123	ECKE1H472MD	0.0047μF, 50WV, ±20%, Ceramic	4	X
167				
C110,126,155	ECKE1H682MD	0.0068μF, 50WV, ±20%, Ceramic	3	X
C108	ECKE1H153MD	0.015μF, 50WV, ±20%, Ceramic	1	X

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C127,165	ECKE1H223MD	0.022μF, 50WV, ±20%, Ceramic	2	X
C14,15,40,42,	ECKE1H103MD	0.01μF, 50WV, ±20%, Ceramic	7	X
54,146,158				
C34,37,47	ECKD1H223MD	0.022μF, 50WV, ±20%, Ceramic	3	X
C58	ECKD1H223MD-Y	0.022μF, 50WV, ±20%, Ceramic	1	X
C12,19,51,	ECQS1331JZ	330PF, 125WV, ±5%, Styrol	4	X
116				
C16	ECQS1361JZ	360PF, 125WV, ±5%, Styrol	1	X
C17	ECQS05122KZ	1200PF, 50WV, ±10%, Styrol	1	X
C31	ECQS05152KZ	1500PF, 50WV, ±10%, Styrol	1	X
C111	ECQS05152JZ	1500PF, 50WV, ±5%, Styrol	1	X
C18	ECQS05332KZ	3300PF, 50WV, ±10%, Styrol	1	X
C208	ECQG05102MZ	0.001μF, 50WV, ±10%, Polyester	1	X
C120,203	ECQG05103MZ	0.01μF, 50WV, ±10%, Polyester	2	X
C38,119,204	ECQG05223MZ	0.022μF, 50WV, ±10%, Polyester	3	X
C201	ECQG05333MZ	0.033μF, 50WV, ±10%, Polyester	1	X
C205	ECQG05683MZ	0.068μF, 50WV, ±10%, Polyester	1	X
C143	ECQG05224MZ	0.22μF, 50WV, ±10%, Polyester	1	X
C112	ECQG05103KZ	0.01μF, 50WV, ±10%, Polyester	1	X
C202,207	ECAG16ER1-Y	0.1μF, 16WV, Electrolytic	2	Y
C41,104,132	ECEA10V100	100μF, 10WV, Electrolytic	5	Y
C32,211	ECEA6V220	220μF, 6.3WV, Electrolytic	2	Y
C125	ECEA6V470	470μF, 6.3WV, Electrolytic	1	Y
C113,141	ECEA16V220	220μF, 16WV, Electrolytic	2	Y
C124,128,134	ECEA16V470	470μF, 16WV, Electrolytic	3	Y
C106	ECEA16V10	10μF, 16WV, Electrolytic	1	Y
C129,130	ECEA16V1000	1000μF, 16WV, Electrolytic	2	Y
C140	ECEA50V3R3	3.3μF, 50WV, Electrolytic	1	Y
C33	ECEA35V4R7	4.7μF, 35WV, Electrolytic	1	Y
C105,122,137	ECEA50V1	1μF, 50WV, Electrolytic	4	Y
C101	ECEA50VR22	0.22μF, 50WV, Electrolytic	1	Y
C103	ECEA50VR47	0.47μF, 50WV, Electrolytic	1	Y

CABINET

CA1-1	→RYMR5310BX	Cabinet Body Assembly	1	X
CA1-2		Cabinet Body Only	(1)	
CA1-3		Escutcheon	(1)	
CA1-4		Panel, Dial	(1)	
CA1-5	Not Available,	Panel, Counter	(1)	
CA1-6	Order	Ornament, Speaker	(1)	
CA1-7	RYMR5310BX	Cover, Reset Switch	(1)	
CA1-8		Badge, National Panasonic Mark	(1)	
CA1-9		Ornament, MIC	(1)	
CA1-10		Baffle	(1)	
CA1-11	RKX101Z	Indicating Plate, Cabinet Upper Side	(1)	
CA1-12	RKX100YS	Handle, Cabinet	1	Y
CA1-13	RNW823	Arm, Handle	2	Y
		Washer(Nylon), Handle Arm M'tg	4	Z

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
CA1-14	XWG3F10	Washer(Metal), Handle Arm M'tg	2	Z
CA1-15	XYN3+C8S	Screw, Handle Arm M'tg	2	Z
CA1-16	XSB3+6BCS	Screw, Handle M'tg	4	Z
CA1-17	RKE9017Y	Cover with Indicating Plate, Cassette Box	1	Y
CA1-18	RHP567B	Sheet, Tape	1	Z
CA1-19	RGX648Z	Indicating Plate, 4 BAND Mark	1	Z
CA1-20	RUS181Z	Spring, Cassette Box	1	Y
	RXE3R5310BX	Bracket Assembly, Cassette Box (Right)	1	Z
CA1-21	Not Available, Order	Bracket Only	(1)	
CA1-22	RXE3R5310BX	Shaft, Bracket	(1)	
	RXE4R5310BX	Bracket Assembly, Cassette Box (Left)	1	Z
CA1-23	Not Available, Order	Bracket Only	(1)	
CA1-24	RXE4R5310BX	Shaft, Bracket	(1)	
	RYFR5310BXD	Cabinet Back Cover Assembly	1	OX
CA2-1	Not Available, Order	Cabinet Back Cover Only	(1)	
CA2-2		Tape, Battery	(1)	
CA2-3	RYFR5310BXD	Stopper, Tape	(1)	
CA2-4	RJS71Z	Terminal, EXT.ANT & EARTH	2	Z
CA2-5	RJC505Z	Spring, Battery ⊖ Side	2	Z
CA2-6	RJT398A	Connecting Pipe, Terminal	2	Z
CA2-7	RJC111A	Terminal, Battery ⊕ Side	2	Z
CA2-8	XAN5T25	Neon Lamp, Arrestor	1	X
CA3	XEARV154HBSY	Telescopic Antenna 1011.5mm	1	X
CA4	RM54A	Bracket(Metal), Telescopic Antenna	1	Z
CA5	RJM121Y	Microphone	1	X
CA6	RHG416Z	Rubber Cover, Microphone	1	Z
CA7	RSM2607Y-K	Meter, TUNING / REC LEVEL / BATTERY Indicator	1	X
CA8	RMM17Z	Bracket, Meter M'tg	1	Z
CA9	RHG914-1	Rubber, Meter Bracket	1	Z
CA10	RMS5B	Bracket, Speaker	4	Z
CA11	RKK9004Z	Cover, Battery	1	X
CA12	RHR550A	Bracket(Plastic), AC Cord	1	Z
CA13	RBS832K	Knob, Band Selector	1	X
CA14	RBN283Y	Knob, Bass & Treble Control	2	X
CA15	RBN284Y	Knob, Volume Control	1	X
CA16	RBN250ZK	Knob, Tuning	1	X
CA17	RBN285ZK	Knob, Fine Tuning	1	X
CA18	XYN3+C6S	Screw, Telescopic Antenna M'tg	1	Z
CA19	XTN3+10B	Screw, Bracket, Telescopic Antenna, Speaker & Meter M'tg	6	Z
CA20	XTN3+16B	Screw, AC Cord Bracket(Plastic) M'tg	2	Z
CA21	XTB3+12BFN	Screw, Cabinet Cover M'tg	2	Z
CA22	XSB3+16BNS	Screw, Cabinet Cover M'tg	2	Z

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
CHASSIS				
CH1-1	RXE1R5310BX	Pointer Guide Assembly	1	Z
CH1-2	Not Available, Order	Guide Only	(1)	
	RXE1R5310BX	Shaft, Pulley	(3)	
CH2-1	RXE2R5310BX	Chassis Assembly	1	Z
CH2-2	Not Available, Order	Chassis Only	(1)	
	RXE2R5310BX	Shaft, Pulley	(1)	
CH3	RJA52	AC Cord, Power Source	1	Y
CH4	RJJ78Z-C	Jack, AUX, MIC, REMOTE & Earphone	1	Y
CH5	RJJ104Z-C	Jack, DC IN	1	Y
CH6	RUB80ZS	Lever(Aluminum), Selector Switch	1	Z
CH7	RUB81Z	Lever(Bakelite), Selector Switch	1	Z
CH8	RUB9010Y	Lever, Selector Switch	1	Z
CH9	RUV323Y	Cover, Selector Switch	1	Z
	RUB129Z	Lever, Recording Switch	1	Z
CH10	RUV283A	Cover, Pause & Memory Switch	2	Z
CH11	RUV184Z	Cover, Voltage Selector Switch	1	Z
CH12	RUV330Z	Cover, Loudness, Monitor & AC / BATT. Switch	1	Z
CH13	RMA118Y	Bracket, Core Antenna	2	Z
CH14	RHG109	Rubber, Core Antenna	2	Z
	RMY22	Heat Sink, Transistor	1	Z
CH15	RDT1164ZK	Tuning Shaft	1	Y
CH16	RDD410Y	Drum, Dial	1	Y
CH17	RDR20-3	Pulley, Dial	1	Z
CH18	RDR21-1	Pulley, Dial	3	Z
	RDS4060A	Spring, Dial	1	Y
CH20	RDZ05A	Cord(500m), Dial	1	Roll Y
CH21	RKD299Z	Scale, Dial	1	Z
CH22	RDP124ZA	Pointer, Dial	1	Y
	RHG5A	Rubber, Tuning Capacitor	1	Z
CH23	RHR700Z	Bracket(Bakelite), Band Selector	1	Z
CH24	RHR103A	Lead Cap, AC Cord	1	Y
CH25(Fig.2)	XTN3+10BR	Red Screw, Chassis M'tg	5	Z
CH26(Fig.2)	XTN3+16BR	Red Screw, Chassis M'tg	1	Z
CH27(Fig.2)	XTW3+8ER	Red Screw, Chassis M'tg	1	Z
CH28(Fig.2)	XYN3+C8RS	Red Screw, Chassis M'tg	1	Z
CH29	RNW150-2	Washer(Nylon), Pulley	4	Z
CH30	XYN26+C6	Screw, Tuning Capacitor & Drum M'tg	3	Z
	XNS8	Nut, Tuning Shaft M'tg	1	Z
	XWV8	Washer, Tuning & Fine Tuning Shaft M'tg	2	Z
	RHE6010A	Washer, Selector Switch Lever M'tg	1	Z
	XYN3+F8S	Screw, Selector Switch Lever M'tg	1	Z
CH31	XSN3+6S	Screw, P.C Board M'tg	2	Z
CH32	XTW3+6L	Screw, P.C Board M'tg	5	Z
CH33	XTN3+6F	Screw, P.C Board M'tg	1	Z
CH34	XTN3+8F	Screw, Chassis M'tg	2	Z

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks	Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
ACCESSORIES									
A1	XEH1A1-P	Magnetic Earphone	1	Y	27	QBP1657	Retainer, Cassette Pressure	1	Z
A2	RJN12Z	Cassette Tape	1	Y	28(S6)	QDC0070	Tape Counter with Memory Switch	1	Z
A3	1JP44ME0300	EXT. Antenna Lead Assembly	1	Y	29	QDB0201	Belt, Tape Counter	1	Z
A4	1JP39-1MEG50	EXT. Earth Lead Assembly	1	Y	30	QMF1711-1	Bracket, Tape Counter	1	Z
A5	RJP120ZS-H	Plug, Power Source	1	Y	31	XYN3+C6	Screw, Tape Counter M'tg	1	Z
					32	XYN3+C8	Screw, Tape Counter M'tg	1	Z
					33	XSC26+8	Screw, Recording Lever M'tg	1	Z
					34	QMB1086	Spacer, Recording Lever	1	Z
					35	QBT1489M	Spring, Recording Lever	1	Y
					36	QML2385	Lever, Recording(Small)	1	Z
					37	QML2384-2	Lever, Recording(Large)	1	Z
					38	XYN2+E5	Screw, Leaf Switch M'tg	2	Z
					39(S5)	QSB0170A	Leaf Switch	1	X
P1	RPP175Z	Polyethylene Cover	1	Z	40	XUC25FK	E Ring, Auto Stop Pawl M'tg	1	Z
	RPN9134Y	Pad Complete	1	Z	41	QBT1807	Spring, Auto Stop Pawl	1	Y
P2	Not Available,	Pad, Right Side	(1)	Z	42	QML2440-3	Pawl, Auto Stop(Plastic)	1	Z
P3	Order RPN9134Y	Pad, Left Side	(1)	Z	43	QHQ1168	Screw, Auto Stop Lever M'tg	1	Z
P4	RPN216LZ	Pad, Left Side	1	OZ	44	QXL0661-1	Auto Stop Lever Assembly	1	Z
P5	RPG1285Y	Packing Case	1	Z	45	QBT1641	Spring, Auto Stop Lever	1	Y
P6	RQX5695X	Instruction Book	1	Y	46	XUC2FK	E Ring, Eject Lock Lever M'tg	1	Z
					47	QBJK0099	Eject Lock Lever(Plastic)	1	Z
					48	Not Available, Order RU-3076-2A	Shaft, Cassette Spacer	(2)	Z
					49	RU-3076-2A	Shaft, Reel Table	(2)	Z
					50	QDK1012	Steel Ball, Head Plate & Flywheel	4	Z
					51	XYN26+F6	Screw, Button Mechanism	6	Z
1	RU-3076-2A	Tape Deck Assembly	1	X	52	QMF1731	Assembly & etc. M'tg		
	XUC3FK	E Ring, Pinch Roller & Head Plate M'tg	2	Z	53	→QXKK0075R	Fixing Plate	1	Z
2	QXL0664	Pinch Roller Assembly	1	Z	53-1		Button Mechanism Assembly	1	Z
3	QBT1632-1	Spring, Pinch Roller	1	Y	53-2		Base, Button Mechanism & Head Plate	(1)	Z
4	XSN2-4	Screw, Head M'tg	1	Z	53-3		Lever Assembly, Eject	(1)	
5	XWA2B	Washer, Head M'tg	1	Z	53-4		Lever Assembly, Recording	(1)	
6	QJT0039	Lug Terminal, Head Lead	1	Z	53-5		Lever, Rewind	(1)	
7	QHQ1226	Screw, Head M'tg & Azimuth Adjusting	1	Z	53-6		Lever, Play Back	(1)	
8	WY034AZ	Head	1	X	53-7		Lever, Fast Forward	(1)	
9	XWG2BW	Washer, Head M'tg	1	Z	53-8		Lever, Stop	(1)	
10	QBC1103A	Spring, Head	1	Z	53-9		Lever, Catch	(1)	
11	QLSK2YBNC250	Lead Wire, Head	1	Z	53-10		Lever, Switch ON-OFF	(1)	
12	XYN26+C4	Screw, Tape Guide M'tg	1	Z	53-11		Button, Eject, Rewind, Play, Fast Forward & Stop	(5)	
13	QMA1814-1	Tape Guide	1	Z	53-12	XTC26+8R	Button, Recording	(1)	
14	QXL0969	Auto Stop Detecting Piece	1	Z			Screw, Button Lever Stopper	1	Z
		Lever Assembly			53-13	XTC26+10R	M'tg		
15	QHQ1220	Screw, Auto Stop Lever M'tg	1	Z	53-14	QMF1637	Stopper, Button Lever	1	Z
16	QBJ1585	Piece, Auto Stop Detecting	1	Z	53-15	QBT1475M	Spring, Eject Lever	1	Y
17	XKK0070A	Head Base Assembly	1	Z	53-16	QBT1776	Spring, Rewind Lever	1	Y
18	QWQ1124	Washer, Idler & Reel Table M'tg	3	Z	53-17	QBT1634T	Spring, Play Lever	1	Y
19	QDP1467	Idler	1	Y	53-18	QBTK0015M	Spring, Fast Forward Lever	1	Y
20	QWQT0005	Washer, Idler & Reel Table M'tg	3	Z	53-19	QBT1653	Spring, Stop Lever	1	Y
21	QBT1405M	Spring, Idler Lever Assembly, Recording Lever & Catch Lever	3	Y	53-20	QBT1652-1	Spring, Catch Lever	1	Y
22	QXL0734	Idler Lever Assemby	1	Z	53-21	QBJ2208	Cover, Button	1	Z
23	QXP0411A	Supply Reel Table	1	Z	54	XUC4FK	E Ring, Connection Pulley M'tg	1	Z
24	QXPK0028-1	Takeup Reel Table	1	Z	55	QBTK0013	Spring, Connection Pulley	1	Y
25	QBCT0005	Spring, Supply Reel Table	1	Y					
26	XYN26+C6	Screw, Retainer, DC Motor Bracket & etc. M'tg	5	Z					

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
56	QXL0836A	Connection Pulley Assembly	1	Z
57	QXL0666Z	Bracket, Flywheel	1	Z
58(S4)	RSH90Z-H	Leaf Switch	1	X
59	QDBK0009	Belt, DC Motor	1	X
60	QXF0082	Flywheel with Capstan	1	Y
61	QBJ3311	Washer, Flywheel M'tg	1	Z
62	QBC1210	Spring, Flywheel Thrust	1	Y
63	QBJ3310	Washer, Flywheel M'tg	1	Z
64	QXL0659A	Play Back Connection Pulley Assembly	1	Z
65	QBTK0025	Spring, Play Back Connection Pulley	1	Y
66	XSN26+6	Screw, DC Motor M'tg	2	Z
67	XWG26B	Washer, DC Motor M'tg	2	Z
68	QXQ0068	Rubber, DC Motor	2	Z
69	QMAK0035	Bracket, DC Motor	1	Z
70	QBG1210	Rubber, DC Motor	2	Z
71	QDPK0018	Pulley, DC Motor	1	Z
72	XSN2+5	Screw, DC Motor Pulley M'tg	1	Z
73	MHI5R9CXPRB	DC Motor with Governor	1	X
74	QLGK0186	Lead Wire, DC Motor	1	Y
75	ECEA16V100L	Electrolytic Capacitor	1	Y
76	QBJK0101	Eject Lever(Plastic)	1	Z
77	QBT1633	Spring, Eject Lever	1	Y
78	QWQ1157	Shaft, Eject Lever	1	Z
79	Not Available,	Shaft, Tape Deck	(3)	
80	Order	Shaft, Flywheel Support Lever	(2)	
81	RU-3076-2A	Shaft, Connection Pulley	(1)	

■ ACCESSORIES & PACKING MATERIALS

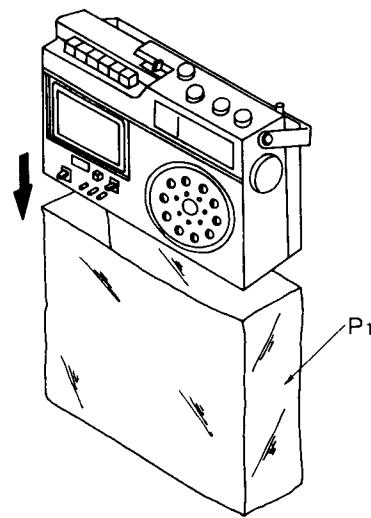


Fig. 16

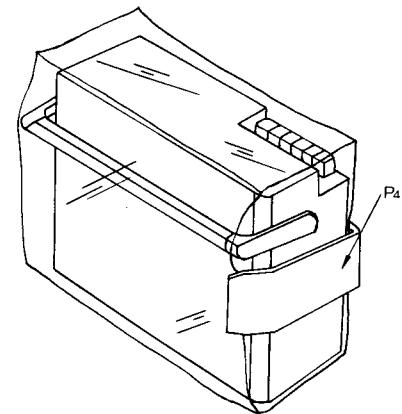


Fig. 17

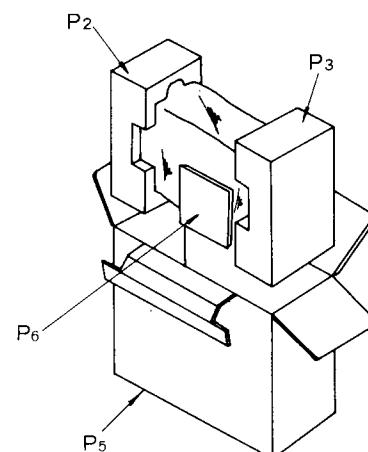


Fig. 18

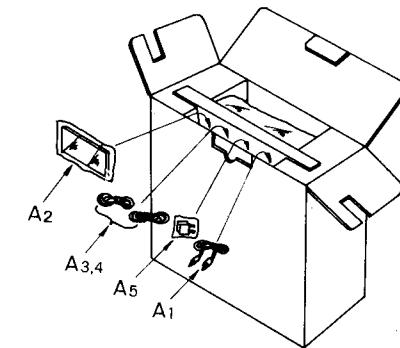


Fig. 19